

\$400k in 3 months

Network Operations Status

Review of 3/15/95 - 7/25/95

Draft 3 - 7/28/95

~~All Fixed Assets~~ All fixed assets computer

Q1 95	\$122.5	\$18K
Q2 95	\$85.8	\$62K
Q3 95	\$113.9	\$85K
Q4 95	\$1200K \$1500K	\$400K

*Very informative
Mission
statement ongoing plan*

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1.0 Introduction

This document was created to record the progress of the WAIS Network Operations team since its inception in early March of '95. It does not attempt (or, at least, tries not) to discuss operation's plans for the future. Those plans will be detailed in the Operations Plan document to be released on 8/1/95.

2.0 In the Beginning...

The current version of WAIS's Network Operations team began when Websoft employees Don Whitt and Frank Dellé introduced themselves to Brewster, Nick, and the rest of WAIS, Inc. in Menlo Park, and started preparing to move the WAIS network to San Francisco. This was the week of March 3rd, 1995, nearly 2 months before the AOL acquisition was completed.

In our first week on site, wais.com (a Sparc10) suffered from daily crashes and ethernet disconnections, due to CPU load and OS bugs. This primary server hosted techweb, Intel, scholastic, wais and Rio services as well as local DNS, news, listserv, sendmail and a portion of FTP. The load on wais.com would get into the 60's and 70's on occasion.

Our first step was to clone wais.com's contents across two new Sparc20's. In this fashion we were able to leave the old hosts in Menlo Park and have the new hosts ready when traffic began routing to the SF site.

MCI had been secured as the SF provider for WAIS , but the necessary termination and routing equipment had not been ordered. So, the next step was to push MCI to complete the installation before the April 1 move date, and obtain a CSU and router for SF. MCI was over two weeks late getting the link activated, turning up the T1 two days before our April 1st moving date.

Kevan and Nick had begun the UPS, electrical wiring, and ethernet for the computer room , as well as the office network nodes, under Jean Christofferson's (Ensemble) supervision. Jean was responsible for interfacing with WAIS' customers when their services experienced downtimes. The computer room was expanded and more

ethernet nodes were added at Websoft's recommendation. Jean Christofferson's responsibilities for the network, including interfacing with CMP, were subsumed by Websoft Operations.

By the end of the move to SF, the total internet downtime for WAIS internet production services was 1 hour and 10 minutes. WAIS began broadcasting from SF on Friday, March 31st at 1:10pm. By the following Monday, all servers, and desktop computers were up and running on a new 10BaseT ethernet network.

3.0 Since Then...

Reliability and stability of servers, of the network and services have improved dramatically since the Menlo Park days, and so has network speed. The CMP servers run for a week at a time without crash or reboot. Operations recently went through a 4 week period without getting a telephone page from CMP. This is a different state of affairs than what we first saw at the Menlo Park Mansion in March of '95.

3.1 Current WAIS Network Trivia:

# of ethernet nodes on net:	192
# of printers on net:	4
# of active T1's on net:	2
# of Gb's of server <u>storage</u> :	~70 Gb → what's if? 76 by next page count of full.
# of NT servers:	1
# of Mac servers:	1
# of Macintoshes:	34
# of PC's:	18 <i>really, where?</i>
# of SGI's:	1
# of Suns:	13 <i>wow!</i>
# of HP's:	1
# of DEC's:	2

X Windows?

3.2 Current WAIS UNIX/NT Server Configurations*

Server	CPU	RAM	DISK/GB	Function	Special
wais	20	224	20	http server, wais, DNS, news, ftp	dual SCSI,4mm DAT
techweb1	20x2	192	4	first and primary CMP server	dual SCSI,4mm DAT
techweb2	20x2	192	2	secondary CM P server	dual SCSI
ns	20	64	4	DNS main, NFS serv., TermServ.	QIC 150 tape
backstage	10	96	2	test and staging server,	
webworld	5	64	2	Remedy host gateway, NIS serv. NFS serv	dual network,8m m tape
dowvision	10	128	7	http server, wais, DNS	wide SCSI,4mm DAT
sashimi	20	64	2	DEV serv, NFS serv, compilers	dual SCSI,8mm
spanky	1	16	6	logs, archives, print server	
classic	2	16	2	Sol 2.3 ports machine	
sushi	10x2	128	16	DEV serv, Xterm home	dual SCSI,4mm x2
ntwais1	P90	24	2	NT	disk/print server 4mm DAT
mica	SGI_Indy	64	4	Wkststn/ports	
BSDi	486/66	8	1	Ports	
HP 9000	HP RISC	32	2	Ports	
		1,368	766		

* Does not include the Webcrawler PC's or Sparcstation

4.0 Ongoing Responsibilities

What's charter?

Ops has picked up a diverse set of tasks over the last 4 months from finding printer drivers for employee's home printers to helping with a facility search. However, the following lists those tasks for which the Network Operations team believes it has ongoing responsibility:

- 4.1) 7x24 Network Trouble Desk interface to Customers & WAIS employees.
- 4.2) Network purchasing, maintenance, connectivity, monitoring, and support.
- 4.3) Network Printing
- 4.4) UNIX, PC and Mac sysadmin and support for all depts.
 - Server spec, purch, cfg, maint and upgrade
 - DNS, NIS, Sendmail, backup, archival, etc.
 - Desktop purch, cfg, maint and upgrades
 - Software purchasing, install, config. and supt.
- 4.5) Data Translation *Telco*
- 4.6) Customer Domain Registration
- 4.7) Telco and Customer Net Ops contact *→ flesh out. Kays has taken over much of this role.*
- 4.8) Power/elect. repair and telco contact
- 4.9) Customer workstation (onsite) setup
- 4.10) Employee loaner computer cfg, maint.
- 4.11) Employee software and computer training
- 4.12) Planning and execution of special network projects, e.g., data feeds, database cfg and translation, home connectivity.

Total cost: \$216K

5.0 Projects

The following is a listing of significant Network Operations projects, completed between the end of March and the present, or are currently in progress.

5.1) Transitioned from MCI T1 to ANS dual T1 .

Cost: \$75K/yr. for ANS link, approx. \$38K/yr. for MCI

Status: MCI line is being disconnected and bandwidth increase via ANS is being evaluated. ANS Faxing estimate for additional T1 and a "hot spare" T1 on alternate circuit.

Shunts: 30k

5.2) Configured NIS service/server and NIS slave server.

Cost: Time only

Status: The NIS server is running an older version of NIS for Solaris, which is unreliable. Waiting for delivery of latest version of NIS from Sun Express (\$130).

5.3) Two HP printers installed and configured.

Cost: \$4,405.98

Status: On line, stable, accessible from all platforms.

5.4) Adapted LocalTalk printer to ethernet.

Cost: \$530.

Status: On line, stable, accessible from all Macs.

5.5) Upgraded main development server, sushi, with dual SCSI buses, 16 GB of hard disks and 128 MB RAM.

Cost: approx. \$22k

Status: On line, unstable: Overloaded with xterms and different project files. 3Gb of space freed up on 7/20/95. Load will soon be shared with Sashimi.

5.6) Installed IS server "ns" (Sparc20). Setup as main DNS server and server for data feed control.

Cost: approx. \$14K

Status: On line, stable.

5.7) Integrated Webcrawler into public network, including DNS round-robin scheme.

Cost: n/a

Status: On line, stable.

5.8) Installed new production services server (backstage). Memory and disks were upgraded, and OS was upgraded to Solaris 2.4.

Cost: ????.

Status: On line, stable.

5.9) Transitioned CMP from wais.com to standalone server (with 10 minutes of service interruption).

Cost: Approx. \$25K.

Status: On line, stable. Part of a dual server system.

5.10) Installation and configuration of dial-in system and configuration of client software.

Cost: Approx. \$6K.

Status: On line, suffering from intermittent line drops, but improving:
Troubleshooting points to Global Village modems as culprit.

5.11) Installed NT server (ntwais1) for cross-platform data sharing, PC printing and backup services.

Cost: n/a (Telesales "NOW" pentium was used for this system).

Status: On line, stable.

5.12) Established data feed for TSN service through FM receiver and terminal server as well as data buffering improvements.

Cost: n/a

Status: On line, system stable.

5.13) Installed Solaris 2.3 server (Sparc Classic) for development/porting.

Cost: n/a (Used Sparc Classic from DC ex-employee.)

Status: On line, system stable.

5.14) Setup and configuration of HP 9000 ports servers for development.

Integration of HP-UX in networked environment, NIS client and automount services.

Cost: Time only: CPU is a promo from HP.

Status: On line, stable.

5.15) Purchase, setup and configuration of SCO ports PC for development. Built machine from scratch parts and diagnosed compatibility problems.

Cost: \$4k

Status: Machine was, ultimately not compatible with SCO, so this has been converted to an on-line payroll and banking system for finance. On line, stable.

5.16) Installed and configured accounting PC for dial-up banking service.

Cost: n/a

Status: Refer to status of item #15.

5.17) Configured 2 Telemagic PC's for Telesales.

Cost: n/a Used existing "ASA" and "NOW" PC's.

Status: On line, stable. System is being ditched in favor of Mac-based ACT! contact database systems.

5.18) Configured 2 Duo/Dock systems for Telesales.

Cost: \$15k.

Status: On line, stable. However, Intel PC's are still in use.

5.19) Configured 3 PC's for Production Services.

Cost: \$6k.

Status: On line, stable. These were for Marty Caplan, Daniel Smith and a public PC for dial-out and miscellaneous development.

5.20) Setup and configuration of secondary CMP server (techweb2) to load balance among two servers. DNS reconfiguration to facilitate DNS round robin

for cmp.wais.com. Established NFS based distribution among the servers. Implemented sendmail changes for CMP registration service.

Cost: \$23k.

Status: On line, stable.

5.21) Installed and tested IPT Ushare product to make UNIX file systems available to Mac users.

Cost: \$2k.

Status: On line, stable. Being moved to Sushi as soon as Sashimi is up w/ HD's.

5.22) Setup NIS net groups scheme to allow secure sharing of data resources among UNIX hosts.

Cost: n/a

Status: On line, stable.

5.23) Setup NFS automounter to allow for secure and flexible resource sharing among UNIX hosts. Setup of NFS distributed /usr/local scheme to optimize usage of common resources for developers.

Cost: n/a

Status: On line, stable.

5.24) Setup of pubware NFS server for common UNIX based resource sharing on spanky and ns, established spanky as log, archive, mail archive and back-end data storage server.

Cost: n/a

Status: On line, stable.

5.25) Setup of /data/maillists for user controlled access to email alias lists.

Cost: n/a

Status: On line, stable. Two maillist utilities now exist: One for finding out to which aliases a staff member belongs, one for displaying all members of a specific alias.

5.26) Creation and initial execution of ISDN implementation plan. Continued coordination with Pac Bell.

Cost: Approx. \$20K (+ monthly telco charges), once PRI router is purchased.

Status: Waiting for approval of PO for PRI router for WAIS. Once installed, we will continue to add ISDN users as needed. More expensive router can be used for videoteleconf - need decision on videoteleconf.

5.27) Setup and configuration of new Solaris 2.4 development server "sashimi" (Sparc 20). Installation of Sun SparcWorks compiler tools, etc.

Cost: Approx. \$19K

Status: Waiting for hard drives to be delivered (NCA 2+ weeks late w/ delivery).

5.28) Upgraded and made performance enhancements to dowvision and wais servers. Installed additional memory and diskspace to facilitate RCS data (on wais.com).

Cost: ????

Status: On line, stable.

5.29) Installed and configured 10 Xterminals.

Cost: Approx. \$35K

Status: On line, stable. We currently have 4 xterms in use by contractors, plus two open, online and available for use.

5.30) Creation and implementation of a UNIX host backup plan.

Cost: n/a

Status: Implemented.

5.31) Network expansion - addition of n ethernet nodes, cabling, patch panels and hubs.

Cost: Approx. \$10K

Status: On line, stable. This gave us enough enet nodes to accomodate up to 75 or 80 employees, plus printers, customers, etc.

5.32) Set up and configued Sparc Server/Sol 2.4 for DC office.

Cost: \$1.3K (hard drive)

Status: Received by DC on 7/25/95.

5.33) Software Inventory and Licensing.

Cost: n/a

Status: In progress. Software-on-site inventory completed. Still collecting data from employees. Goal is to have inventory completed by second week of August.

5.34) Fixed Asset Inventory

Cost: \$489 (bar code reader/labeller)

Status: Just initiated. Completion by beginning of August.

5.35) Ops Queue Database

Cost: n/a (prototyped and currently using w/ Filemaker Pro on Macs)

Status: Online and Stable. Waiting for home on new bronto. Will move to Remedy ASAP.

5.36) Mac ARA Dial-in Access

Cost: \$200 (ARA software)

Status: Online and Stable. Single line.

5.37) Multi-homing Project (for hosting multiple services, each w/ unique IP addresses, on a single server)

Cost: n/a

Status: In progress.

5.38) Netra Server Evaluation

Cost: n/a

Status: In progress.

6.0 Appendix (refer to attachments)

6.1) Websoft Depreciation Schedule

This spreadsheet incorporates the majority of fixed assets purchased by Navisoft/Websoft/AOL between Nov '94 and July '95. Many items are covered only through expense reports and need to be rolled into this accounting.

6.2) WAIS Depreciation Schedule

Created by WAIS finance, this spreadsheet covers depreciable assets for April through June of this year.

6.3) Combined Websoft/WAIS Depreciation Schedule

This is a combination of the two previous spreadsheets, and an attempt to categorize both sets of data consistently. The goal was to get a snapshot of the amount of money spent on hardware and software assets for each dept or group in the present organization. The time spans for each spreadsheet were different, and many of the G&A expenses could easily fall into other, more specific, categories, projects or departments.

6.5) Emergency Notification Procedure

This is actually the latest version of this procedure, emailed and posted throughout the company on Friday, 7/28/95.

6.6) Production Service/Server spec

This is a draft of an Ops-oriented specification Frank created for setting up a production service. This was sent out with a request for comments from production services staff. This is an initial draft. Please excuse the formatting.

6.7) Standard CPU Cfgs for WAIS Employees

This list was developed by Operations in order to aid facilities/G&A in their orders for computers, and provide guidelines for predicting new employee-related expenses. This

needs to be updated in light of the latest Macintoshes and the increased use of Intel-based PC's on the network.

6.8) ANS T1 Link Utilization Reports

These graphs represent:

- a) Percent of total link utilization for incoming traffic for 7/17/95-7/24/95.
- b) a) Percent of total link utilization for outgoing traffic for 7/17/95-7/24/95.
- c) Percent of total link utilization for incoming traffic for 5/1/95-5/8/95.
- d) a) Percent of total link utilization for outgoing traffic for 5/1/95-5/8/95.

The point is to show the increase of traffic over the last 2.5 months. The average max for incoming traffic has increased approximately 15% over this period. This is primarily related to increased popularity of Webcrawler and Techweb.

6.9) ANS T1 Link Invoice

This is what it costs us per T1, per year. Add another T1, and our expenses go up by this increment.

Websoft, Inc.
Depreciation Schedule

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original Cost
WEBCRAWLER					
		600 NAV-941044	Nov-94	Dell Port Replicator for Rob's laptop	227.42
		600 NAV-941044	Nov-94	Dell Laptop Computer - Rob	6494.57
		600 WEB-95-1936	Mar-95	NeXTSTEP SDK for Intel	3260.17
		600 WEB-95-1937	Mar-95	Dell Dim 5100/XPS Computer, etc	2747.59
		600 WEB-95-1941	Apr-95	Radius 21" Mon, PwrMac 8100 CFG	9127.5
		600 WEB-95-1951	Apr-95	NextStep for Intel,Sparc, Sparc SDK	8059.66
		600 WEB-95-1958	May-95	2 64Mb DRAM SIMMs	6345.08
		600 WEB-95-1967	May-95	Howard Enterprises Telecamera 6300	563.55
		600 WEB-95-1968	May-95	NEC21XP Mon	2785.48
		600 WEB-95-1972	May-95	Oracle7 (7.1), Asst'd Modules	11,092.00
		600 WEB-95-1973	May-95	Canon 486D-2/66 Computer, RAM, SCSI adapt,USR Modem, Pwr supply	2,165.55
		600 WEB-95-1981	Jun-95	Dell Dim 5133 Workstation, ETC	14,505.18
SUBTOTAL WEBCRAWLER					
67,373.75					
<i>Yow!</i>					
PRODUCTION SERVICES					
		WEB-95-1962	May-95	Micron M54SI PowerStation P (DLS's Computer)	3,608.00
SUBTOTAL PRODUCTION SERVICES					
3,608.00					
DEVELOPMENT					
		WEB-95-1980	Jun-95	6 copies of NetManage Cham 32NFS (for NT)	4602.45
SUBTOTAL DEVELOPMENT					
4,602.45					
MKTG/SALES					
		WEB-95-1983	Jun-95	WebWorld Booth, Signage, Netwks, Photos, Transport,Telco,literature	16,313.40
SUBTOTAL MKTG/SALES					
16,313.40					
FINANCE					
		WEB-95-1966	May-95	P66 COMPUTER (orig. pieced together for SCO development/ports)	3,839.29
SUBTOTAL FINANCE					
3,839.29					

Websoft, Inc.

Depreciation Schedule

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original Cost
OPERATIONS					
13200 ???	WEB-95-1950		Apr-95	emaster+EMI960 PCI combo	285.17
???	WEB-95-1950		Apr-95	cogent EM 960 combo	202.40
500	WEB-95-1955		May-95	XWindows for Intel	335.50
500	WEB-95-1956		Apr-95	2 1.05 Seagate Drives, 2 external enclosures (Frank's comp)	1,519.00
500	WEB-95-1963		May-95	Ushare unltd/sngl serv, 1yr maint.	2,593.15
500	WEB-95-1970		May-95	USR Courier Modem	629.63
SUBTOTAL OPERATIONS					5,564.85
MISC DESKTOP EQUIPMENT					
	WEB-95-1941		Apr-95	Duo 280C	3,869.00
	WEB-95-1952		Apr-95	2 32M DRAM SIMM, 2 16Mb DRAM SIMM	3,695.51
	WEB-95-1957		May-95	3 soundblasters, 2 seagate 1 gb dr, scsi cables, 270Mb Syquest, 6 carts	2,924.08
	WEB-95-1969		May-95	Contract Mac Maintenance/Supt - Proctor-Willenbacher	1,085.00
	WEB-95-1975		May-95	2 4MB SIMMS	381.92
TOTAL MISC DESLTOP EQUIPMENT					11,573.59
SOFTWARE TOOLS					
	WEB-95-1944		Apr-95	Photoshop, quark, MSWord6, Flopt Stor Box, Apple Kybd	1,949.59
	WEB-95-1945		Apr-95	Netscape Navigator for Mac	59.00
	WEB-95-1946		Apr-95	Image Alchemy for Sun 4	541.08
	WEB-95-1948		Apr-95	Qualcomm Eudora - Marty	80.53
	WEB-95-1953		Apr-95	3 copies of Chameleon for Win 3.1	1,327.00
	WEB-95-1960		May-95	Chameleon for Win 3.1	447.00
	WEB-95-1964		May-95	Kai's Pwr Tools, KPT Converter, Adobe Premiere, Fractal Painter	1251.45
	WEB-95-1979		Jun-95	Adobe Persuasion for Mac	823.75
	WEB-95-1982		Jun-95	MacroMind Director 4.0 for Mac	1093.92
TOTAL SOFTWARE TOOLS					7,573.32
NETWORK EQUIPMENT:					
	500	WEB-95-1931	Mar-95	(5) 3COM network hubs	5,145.00
	500	WEB-95-1932	Mar-95	Sparc 20 - New WAIS.com	22,099.91
	500	WEB-95-1933	Mar-95	Livingston Terminal Server	2,351.45
	500	WEB-95-1938	Mar-95	5 Courier v.34 Modems (orig order was 6: Vendor Misquote)	3,434.88
	500	WEB-95-1938	Apr-95	2 HP LaserJet 4M+ Printers	4,405.98

Websoft, Inc.
Depreciation Schedule

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original Cost
500	WEB-95-1977		May-95	32MB SPARC RAM - SPARC20, 60NS	1,518.15
500	WEB-95-1984		Jun-95	SBUS Fast SCSI-2 Enet Card	825.41
500	WEB-95-1985		Jun-95	Artecom 9Gb HD, 64 Mb DRAM SIMM	7,269.50
500	WEB-95-1986		Jun-95	Sparc20 Station for CMP, 4mm Tape, 32 Mb RAM Expans.	12,509.56
500	WEB-95-1987		May-95	Seagate 1.05Gb HD, Seagate Ext. 4.1 Gb HD, Cables, Adaptec Wide SCSI/O Bus	2,920.39
500	WEB-95-1922			Gateway P4/66 and P5100 Computers	5,755.00
				TOTAL NETWORK EQUIPMENT	68,235.23
LEASEHOLD IMPROVEMENTS:					
13500	400	WEB-95-1974		May-95 Valley Communications / Node installation	9,145.39
				TOTAL LEASEHOLD IMPROVEMENTS	9,145.39
FURNITURE:					
13100	400	WEB-95-1949	Apr-95	Ergonomic Chair	614.20
				TOTAL FURNITURE	614.20
				GRAND TOTAL	198,443.47

WAIS, Inc.
Depreciation Schedule

April-June '95

Acct.	Dept.	Date	Asset Description	Original Cost
13200	100	Apr-95	Powerbook 520C 12/320MDM serial#FC51392N49H (includes battery & net adapter)	3,497.76
13200	100	May-95	Powerbook 5XX Intelligent Battrry (3)	459.43
13200	100	May-95	Smartcharger 500 F/MAC Batteries	189.03
13200	100	May-95	Sony Multiscan CPD-15SF1 15"Mon serial # S01-8132764	519.10
13200	100	Jun-95	Duo 280C 33mhz,20mb bd,keybd,adapter,multiple scan 17 display serial #FC517HGL23D	6,248.13
13200	100	Jun-95	Asante MCI NB-10T Enet Nubus Crd, 5XX Battery, Duo Dock w/230mb HD,FPU&VRAM	908.22
13200	100	Jun-95	Duo 280C 33mhz,20mb bd,keybd,adapter,multiple scan 17 display serial #FC517H3223D	6,248.13
13200	100	Jun-95	Asante MCI NB-10T Enet Nubus Crd, 5XX Battery, Duo Dock w/230mb HD,FPU&VRAM	908.22
			SUBTOTAL SALES & MARKETING	18,978.01
13200	110	Mar-95	Netscape: Navigator for MAC (3)	179.60
			SUBTOTAL DC OFFICE	179.60
13200	200	Apr-95	Quantum Empire (w/datacase)1080S3.5"SCSI-2 HD serial #454435640180	761.26
13200	200	May-95	Powerbook 520C 12/320/MDM # FC5169Z149H	3,253.73
13200	200	May-95	Powerbook 5XX Intelligent Battrry (Pat)	146.48
13200	200	May-95	MAC 7100/80 8/700/CD #FC51100444H	4,338.30
13200	200	May-95	16 MB Apple 72Pin Simm (2) (Sarah)	1,280.30
13200	200	May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020221	3,107.05
13200	200	May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020222	3,107.05
13200	200	May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020223	3,107.05
13200	200	May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020224	3,107.05
13200	200	Jun-95	Powerbk 520C 25mhz,16mb bd,adapter,cable,mouse,kybd&battery serial #FC519SBA49H	4,286.84
13200	200	Jun-95	Powerbk 520C 25mhz,16mb bd,adapter,cable,mouse,kybd&battery serial #FC519SDE49H	4,286.84
13200	200	Jun-95	Adapter, mouse,cable & battery (Pat)	201.81
13200	200	Jun-95	16MB ram for 520C, adapter,keyboard,mouse,cable,friendlynet 10baseT/Thin (Dan)	1,052.55
13200	200	Jun-95	Sony Multiscan 17sf serial #S01-7133323-8	949.38
13200	200	Jun-95	Quantum Daytona 514MB 2.5" SCSI serial # 315511051478	482.83
13200	200	Jun-95	Sony Multiscan 17sf serial #S01-7144082-C	922.25
13200	200	Jun-95	Sony Multiscan 17sf serial #S01-7149239-L	922.25
13200	200	Jun-95	Sony Multiscan 17sf serial #S01-7149238-K	922.25
13200	200	Jun-95	Powerbook 5XX 16MB bd (Pat)	703.83
			SUBTOTAL PRODUCTION SERVICES	36,939.04
13200	300	May-95	Duo Dock w/230MB HD & Keybd serial # TF50113B1Y5	764.93
13200	300	May-95	Asante MCI NB-10TEnet Nubus Crd thick/10BT(MAC)	124.78
13200	300	May-95	Sony Multiscan 17SF serial # S01-7133464-E	949.38
13200	300	May-95	Open Desktop Dev Sys 3.0	1,331.53
13200	300	Jun-95	Purify 3.0 software licenses (5)	7,041.65

WAIS, Inc.
Depreciation Schedule

April-June '95

Acct.	Dept.	Date	Asset Description	Original Cost
13200	300	Jun-95	Remedy-Sun Sparc on Lolaris 2.3 CD-ROM	7,052.50
13200	300	Jun-95	Remedy-ARS Terminal for Apple MacIntosh	542.50
13200	300	Jun-95	Remedy-write license 5pk Fixed OSF/Motif	4,340.00
13200	300	Jun-95	Datahand keyboard (Harry)	854.80
13200	300	Jun-95	75MHZ TGX Desktop WKstn pkg,32MB mem exp, Intrl floppy dr serial #525F0470	13,134.50
13200	300	Jun-95	Sparcstrg Slim CD plus int opt serial #9525333308	260.40
13200	300	Jun-95	SBUS DFF Intlnt SCSI2 Host AD serial #015012	843.05
13200	300	Jun-95	workshop for C++ 1.1 Slim pack serial #445-5320	2,437.18
13200	300	Jun-95	Webcrawler-75MHZ MP TGX Desktop Wkstn,64MB Mem, intrl floppy dr serial #525F08XI	19,058.60
13200	300	Jun-95	Webcrawler-Sparcstrg Slim CD plus int opt serial #9525333322	260.40
13200	300	Jun-95	Webcrawler-Solaris 2.x desktop media kit serial no. 911892	48.83
13200	300	Jun-95	Webcrawler-SBUS DFF Intlnt SCSI2 Host AD serial #015371	843.05
13200	300	Jun-95	Quantum Daytona 514MB 2.5" SCSI Serial#315511051884 (Edy)	486.83
13200	300	Jun-95	Duo 20MB Bd (Edy)	926.25
SUBTOTAL DEVELOPMENT				61,301.12
13200	400	Apr-95	PowerMAC 6100/66 w 4MB 72-Pin SIMM 70NS w/CD serial #XB51527P41X	2,336.55
13200	400	Apr-95	Sony Multiscan 17SF serial #S01-7130229-A	947.19
13200	400	Apr-95	Apple Multiple Scan 15 Display serial #CJ51262639X	525.01
13200	400	Apr-95	Sony Adaptor MACview universal	32.15
13200	400	Apr-95	PowerMAC 6100/66 w 4MB 72-Pin SIMM 70NS w/CD serial #XB51528B41X	2,336.55
13200	400	May-95	Additional Memory (Nick)	616.99
13200	400	May-95	Duo 280C 12/320/MDM w/MACview & Keybd serial #FC509HPA23D	4,354.58
13200	400	May-95	Sony Multiscan 17SF (Deanna)	959.38
13200	400	May-95	Duo Dock w/230 MB HD, FPU, & VRAM serial # TF5013RA1Y5	688.13
13200	400	May-95	Asante MCI NB-10T ENET NUBUS CRD Thick/10BT(MAC)	124.78
13200	400	May-95	Powerbook 5XX 16MB BD (Brewster)	731.53
13200	400	May-95	Surge personal surgearrest 7 outlet strip (10)	238.70
13200	400	May-95	Adaptors (10)	238.70
13200	400	May-95	8MB Apple 72-PIN SIMM 70NS (Victoria)	379.75
13200	400	Jun-95	Asante Friendlynet adapter 10BT (6)	394.60
SUBTOTAL G&A				14,904.57
TOTAL COMPUTER EQUIPMENT				132,302.33
TOTAL EQUIPMENT				132,302.33
PRODUCTION SERVICES EQUIPMENT & SOFTWARE:				
13300	200	Mar-95	6.0 KVA Upstation power supply	12,060.92
13300	200	Mar-95	32MB 17" Color-TGX Desktop Ser#508F02RA,64MB, 32MB, SOL 1.X Sidegrade-lic & cd	14,944.55
13300	200	Apr-95	64 Meg Simm	6,347.45

WAIS, Inc.
Depreciation Schedule

April-June '95

Acct.	Dept.	Date	Asset Description	Original Cost
13300	200	Jun-95	32 Meg Memory Simm for Sparc 20 for techweb upgrade	5,555.20
13300	200	Jun-95 (RCS)	Artecon 9 gig disk drive for public net	4,127.07
13300	200	Jun-95 (CMP)	Sparc 20 M712, 64MB 1.05GB DSK,64MB Exp, sol 1.2 media &RT serial #513F04BQ	23,966.67
			TOTAL PRODUCTION SERVICES EQUIP. & SOFTWARE	67,001.86
NETWORK EQUIPMENT:				
13400	500	May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020220	3,107.05
13400	500	May-95	100 category 5 LAN network cables	250.00
13400	500	Jun-95	Sparc 10, 64 Meg Simm for DV server	3,314.68
13400	500	Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1732	1,077.12
13400	500	Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1738	1,077.12
13400	500	Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1739	1,077.12
13400	500	Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1750	1,077.13
13400	500	Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1760	1,077.13
			TOTAL NETWORK EQUIPMENT	12,057.34
LEASEHOLD IMPROVEMENTS:				
13500	400	Apr-95	Valley Communications / Node installation	10,795.00
13500	400	May-95	Valley Communications / Node installation	843.83
			TOTAL LEASEHOLD IMPROVEMENTS	11,638.83
			GRAND TOTAL	223,000.36

**WAIS/Websoft Combined
Depreciation Schedule**

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original Cost
WEBCRAWLER					
		600 NAV-941044	Nov-94	Dell Port Replicator for Rob's laptop	227.42
		600 NAV-941044	Nov-94	Dell Laptop Computer - Rob	6494.57
		600 WEB-95-1936	Mar-95	NeXTSTEP SDK for Intel	3260.17
		600 WEB-95-1937	Mar-95	Dell Dim 5100/XPS Computer, etc	2747.59
		600 WEB-95-1941	Apr-95	Radius 21" Mon, PwrMac 8100 CFG	9127.5
		600 WEB-95-1951	Apr-95	NextStep for Intel,Sparc, Sparc SDK	8059.66
		600 WEB-95-1958	May-95	2 64Mb DRAM SIMMs	6345.08
		600 WEB-95-1967	May-95	Howard Enterprises Telecamera 6300	563.55
		600 WEB-95-1968	May-95	NEC21XP Mon	2785.48
		600 WEB-95-1972	May-95	Oracle7 (7.1), Asst'd Modules	11,092.00
		600 WEB-95-1973	May-95	Canon 486D-2/66 Computer, RAM, SCSI adapt,USR Modem, Pwr supply	2,165.55
		600 WEB-95-1981	Jun-95	Dell Dim 5133 Workstation, ETC	14,505.18
13200	300		Jun-95	Webcrawler-75MHZ MP TGX Desktop Wkstn,64MB Mem, intrl floppy dr serial #525F08XI	19,058.60
13200	300		Jun-95	Webcrawler-Sparcstrg Slim CD plus int opt serial #952533322	260.40
13200	300		Jun-95	Webcrawler-Solaris 2.x desktop media kit serial no. 911892	48.83
13200	300		Jun-95	Webcrawler-SBUS DFF Intlgnt SCSI2 Host AD serial #015371	843.05
SUBTOTAL WEBCRAWLER					
87,584.62					
PRODUCTION SERVICES					
13200	200		Jun-95	Sony Multiscan 17sf serial #S01-7149238-K	922.25
13300	200		Mar-95	6.0 KVA Upstation power supply	12,060.92
13300	200		Mar-95	32MB 17" Color-TGX Desktop Ser#508F02RA,64MB, 32MB, SOL 1.X Sidegrade-lic & cd	14,944.55
13300	200		Apr-95	64 Meg Simm	6,347.45
13300	200		Jun-95	32 Meg Memory Simm for Sparc 20 for techweb upgrade	5,555.20
13300	200		Jun-95	(CMP)Sparc 20 M712, 64MB 1.05GB DSK,64MB Exp, sol 1.2 media &RT serial #513F04BQ	23,966.67
13200	200		Jun-95	Powerbook 5XX 16MB bd (Pat)	703.83
13200	200		Apr-95	Quantum Empire (w/datacase)1080S3.5"SCSI-2 HD serial #454435640180	761.26
13200	200		May-95	Powerbook 520C 12/320/MDM # FC5169Z149H	3,253.73
13200	200		May-95	Powerbook 5XX Intelligent Batty (Pat)	146.48
13200	200		May-95	MAC 7100/80 8/700/CD #FC51100444H	4,338.30
13200	200		May-95	16 MB Apple 72Pin Simm (2) (Sarah)	1,280.30

**WAIS/Websoft Combined
Depreciation Schedule**

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original Cost
13200	200		May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020221	3,107.05
13200	200		May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020222	3,107.05
13200	200		May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020223	3,107.05
13200	200		May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020224	3,107.05
13200	200		Jun-95	Sony Multiscan 17sf serial #S01-7144082-C	922.25
13200	200		Jun-95	Sony Multiscan 17sf serial #S01-7149239-L	922.25
13200	200		Jun-95	Sony Multiscan 17sf serial #S01-7149238-K	922.25
13200	200		Jun-95	Powerbk 520C 25mhz,16mb bd,adapter,cable,mouse,kybd&battery serial #FC519SBA49H	4,286.84
13200	200		Jun-95	Powerbk 520C 25mhz,16mb bd,adapter,cable,mouse,kybd&battery serial #FC519SDE49H	4,286.84
13200	200		Jun-95	Adapter, mouse,cable & battery (Pat)	201.81
13200	200		Jun-95	16MB ram for 520C, adapter,keyboard,mouse,cable,friendlynet 10baseT/Thin (Dan)	1,052.55
13200	200		Jun-95	Sony Multiscan 17sf serial #S01-7133323-8	949.38
13200	200		Jun-95	Quantum Daytona 514MB 2.5" SCSI serial # 315511051478	482.83
13200	200		Jun-95	Powerbook 5XX 16MB bd (Pat)	703.83
WEB-95-1962			May-95	Micron M54SI PowerStation P (DLS's Computer)	3,608.00
SUBTOTAL PRODUCTION SERVICES					105,047.91

DEVELOPMENT

13200	300		May-95	Duo Dock w/230MB HD & Keybd serial # TF50113B1Y5	764.93
13200	300		May-95	Asante MCI NB-10TEnet Nubus Crd thick/10BT(MAC)	124.78
13200	300		May-95	Sony Multiscan 17SF serial # S01-7133464-E	949.38
13200	300		May-95	Open Desktop Dev Sys 3.0	1,331.53
13200	300		Jun-95	Purify 3.0 software licenses (5)	7,041.65
13200	300		Jun-95	Remedy-Sun Sparc on Solaris 2.3 CD-ROM	7,052.50
13200	300		Jun-95	Remedy-ARS Terminal for Apple Macintosh	542.50
13200	300		Jun-95	Remedy-write license 5pk Fixed OSF/Motif	4,340.00
13200	300		Jun-95	Datahand keyboard (Harry)	854.80
13200	300		Jun-95	75MHZ TGX Desktop WKstn pkg,32MB mem exp, Intrl floppy dr serial #525F0470	13,134.50
13200	300		Jun-95	Sparcstn Slim CD plus int opt serial #952533308	260.40
13200	300		Jun-95	SBUS DFF Intlgnt SCSI2 Host AD serial #015012	843.05
13200	300		Jun-95	workshop for C++ 1.1 Slim pack serial #445-5320	2,437.18
13200	300		Jun-95	Quantum Daytona 514MB 2.5" SCSI Serial#315511051884 (Edy)	486.83

**WAIS/Websoft Combined
Depreciation Schedule**

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original Cost
13200	300		Jun-95	Duo 20MB Bd (Edy)	926.25
		WEB-95-1980	Jun-95	6 copies of NetManage Cham 32NFS (for NT)	4602.45
				SUBTOTAL DEVELOPMENT	45,692.70
					7
MKTG/SALES					
		WEB-95-1983	Jun-95	WebWorld Booth, Signage, Netwks, Photos, Transport,Telco,literature	16,313.40
13200	100		Jun-95	Duo 280C 33mhz,20mb bd,keybd,adapter,multiple scan 17 display serial #FC517HGL23D	6,248.13
13200	100		Jun-95	Asante MCI NB-10T Enet Nubus Crd, 5XX Battery, Duo Dock w/230mb HD,FPU&VRAM	908.22
13200	100		Jun-95	Duo 280C 33mhz,20mb bd,keybd,adapter,multiple scan 17 display serial #FC517H3223D	6,248.13
13200	100		Jun-95	Asante MCI NB-10T Enet Nubus Crd, 5XX Battery, Duo Dock w/230mb HD,FPU&VRAM	908.22
13200	400		Apr-95	Apple Multiple Scan 15 Display serial #CJ51262639X	525.01
13200	400		Apr-95	Sony Adaptor MACview universal	32.15
13200	400		Apr-95	PowerMAC 6100/66 w 4MB 72-Pin SIMM 70NS w/CD serial #XB51528B41X	2,336.55
				SUBTOTAL MKTG/SALES	33,519.81
FINANCE					
		WEB-95-1966	May-95	P66 COMPUTER (orig. pieced together for SCO development/ports)	3,839.29
				SUBTOTAL FINANCE	3,839.29
OPERATIONS					
13200 ???	WEB-95-1950		Apr-95	emaster+EMI960 PCI combo	285.17
???	WEB-95-1950		Apr-95	cogent EM 960 combo	202.40
500	WEB-95-1955		May-95	XWindows for Intel	335.50
500	WEB-95-1956		Apr-95	2 1.05 Seagate Drives, 2 external enclosures (Frank's comp)	1,519.00
500	WEB-95-1963		May-95	Ushare unlt/sngl serv, 1yr maint.	2,593.15
500	WEB-95-1970		May-95	USR Courier Modem	629.63
				SUBTOTAL OPERATIONS	5,564.85

WAIS/Websoft Combined Depreciation Schedule

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original
					Cost
G&A, MISC DESKTOP EQUIPMENT					
		WEB-95-1941	Apr-95	Duo 280C	3,869.00
		WEB-95-1952	Apr-95	2 32M DRAM SIMM, 2 16Mb DRAM SIMM	3,695.51
		WEB-95-1957	May-95	3 soundblasters, 2 seagate 1 gb dr, scsi cables, 270Mb Syquest, 6 carts	2,924.08
		WEB-95-1969	May-95	Contract Mac Maintenance/Supt - Proctor-Willenbacher	1,085.00
13200	400		Apr-95	PowerMAC 6100/66 w 4MB 72-Pin SIMM 70NS w/CD serial #XB51527P41X	2,336.55
13200	400		Apr-95	Sony Multiscan 17SF serial #S01-7130229-A	947.19
13200	400		May-95	Additional Memory (Nick)	616.99
13200	400		May-95	Duo 280C 12/320/MDM w/MACview & Keybd serial #FC509HPA23D	4,354.58
13200	400		May-95	Sony Multiscan 17SF (Deanna)	959.38
13200	400		May-95	Duo Dock w/230 MB HD, FPU, & VRAM serial # TF5013RA1Y5	688.13
13200	400		May-95	Asante MCI NB-10T ENET NUBUS CRD Thick/10BT(MAC)	124.78
13200	400		May-95	Powerbook 5XX 16MB BD (Brewster)	731.53
13200	400		May-95	Surge personal surgearrest 7 outlet strip (10)	238.70
13200	400		May-95	Adaptors (10)	238.70
13200	400		May-95	8MB Apple 72-PIN SIMM 70NS (Victoria)	379.75
13200	400		Jun-95	Asante Friendlynet adapter 10BT (6)	394.60
13200	100		Apr-95	Powerbook 520C 12/320MDM serial#FC51392N49H (includes battery & net adapter)	3,497.76
13200	100		May-95	Powerbook 5XX Intelligent Batty (3)	459.43
13200	100		May-95	Smartcharger 500 F/MAC Batteries	189.03
13200	100		May-95	Sony Multiscan CPD-15SF1 15"Mon serial # S01-8132764	519.10
	WEB-95-1975		May-95	2 4MB SIMMS	381.92
TOTAL MISC DESLTOP EQUIPMENT					28,631.67

SOFTWARE TOOLS

WEB-95-1944	Apr-95	Photoshop, quark, MSWord6, Flopp Stor Box, Apple Kybd	1,949.59
WEB-95-1945	Apr-95	Netscape Navigator for Mac	59.00
WEB-95-1946	Apr-95	Image Alchemy for Sun 4	541.08
WEB-95-1948	Apr-95	Qualcomm Eudora - Marty	80.53
WEB-95-1953	Apr-95	3 copies of Chameleon for Win 3.1	1,327.00

**WAIS/Websoft Combined
Depreciation Schedule**

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original Cost
		WEB-95-1960	May-95	Chameleon for Win 3.1	447.00
		WEB-95-1964	May-95	Kai's Pwr Tools, KPT Converter, Adobe Premiere, Fractal Painter	1251.45
		WEB-95-1979	Jun-95	Adobe Persuasion for Mac	823.75
		WEB-95-1982	Jun-95	MacroMind Director 4.0 for Mac	1093.92
13200	110		Mar-95	Netscape: Navigator for MAC (3)	179.60
TOTAL SOFTWARE TOOLS					7,752.92
NETWORK EQUIPMENT:					
		500 WEB-95-1931	Mar-95	(5) 3COM network hubs	5,145.00
		500 WEB-95-1932	Mar-95	Sparc 20 - New WAIS.com	22,099.91
		500 WEB-95-1933	Mar-95	Livingston Terminal Server	2,351.45
		500 WEB-95-1938	Mar-95	5 Courier v.34 Modems (orig order was 6: Vendor Misquote)	3,434.88
		500 WEB-95-1938	Apr-95	2 HP LaserJet 4M+ Printers	4,405.98
		500 WEB-95-1977	May-95	32MB SPARC RAM - SPARC20, 60NS	1,518.15
		500 WEB-95-1984	Jun-95	SBUS Fast SCSI-2 Enet Card	825.41
		500 WEB-95-1985	Jun-95	Artecon 9Gb HD, 64 Mb DRAM SIMM	7,269.50
13300	200		Jun-95	(RCS)Artecon 9 gig disk drive for public net	4,127.07
		500 WEB-95-1986	Jun-95	Sparc20 Station for CMP, 4mm Tape, 32 Mb RAM Expans.	12,509.56
		500 WEB-95-1987	May-95	Seagate 1.05Gb HD, Seagate Ext. 4.1 Gb HD, Cables, Adaptec Wide SCSI Bus	2,920.39
		500 WEB-95-1922		(2) Gateway P4/66 and P5100 Computers	5,755.00
13400	500		May-95	Color 19in 1280 w/kbd & 4mb ram serial # B020220	3,107.05
13400	500		May-95	100 category 5 LAN network cables	250.00
13400	500		Jun-95	Sparc 10, 64 Meg Simm for DV server	3,314.68
13400	500		Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1732	1,077.12
13400	500		Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1738	1,077.12
13400	500		Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1739	1,077.12
13400	500		Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1750	1,077.13
13400	500		Jun-95	4 MM 5 Gigabyte Tape Drive backup serial #s 519G1760	1,077.13
TOTAL NETWORK EQUIPMENT					84,419.65

**WAIS/Websoft Combined
Depreciation Schedule**

April-June '95

Acct.	Dept.	PO#	Date	Asset Description	Original Cost
LEASEHOLD IMPROVEMENTS:					
13500	400		Apr-95	Valley Communications / Node installation	10,795.00
13500	400		May-95	Valley Communications / Node installation	843.83
13500	400	WEB-95-1974		May-95 Valley Communications / Node installation	9,145.39
TOTAL LEASEHOLD IMPROVEMENTS					20,784.22
FURNITURE:					
13100	400	WEB-95-1949	Apr-95	Ergonomic Chair	614.20
TOTAL FURNITURE					614.20
GRAND TOTAL					423,451.83

6.4) Net Ops Job Request Procedure

Date: Mon, 8 May 1995 16:40:26 PDT
To: wais-staff@wais.com, websoft-staff@wais.com
From: don@wais.com (Don Whitt)
Subject: Job Queue
Cc: frank@wais.com, kevan@wais.com, don@wais.com

WAIS-ites,

When you have a network, hardware or software need that is not an emergency (an emergency means a glitch has occurred that stops you "cold") please send an email to the email alias "ops" with the subject title "Job Request".

Describe exactly what you need done and by when you need it done within the body of the email.

We ask that you send requests to us as far in advance as possible so that we can plan ahead and make sure you get what you need when you need it.

Here are some examples of the sorts of non-emergencies for which we expect advance email notification:

- 1) Computer, hardware and software ordering, purchasing, repair or configuration.
- 2) Network connections.
- 3) User and host accounts.
- 4) Email aliases.
- 5) New network services/systems for development or any other team.
- 6) Dial-in accounts.
- 7) Customer support, e.g., hardware, software and internet provider recommendations, system cfg, etc.
- 8) Machine swapping or custom/temp. configuration.
- 9) Infrastructure changes, e.g., extra ethernet nodes, phonelines, etc.
- 10) Spot backups, or regular backups of specific directories, assets, etc.
- 11) Attendance at project team meetings.

...and, in general, any network, hardware or software resource allocation. We request advance notification for all of it.

Obviously, things will come up that require immediate attention w/ no advance warning. Improperly configured computers, inability to get at your email or print a contract can make your success impossible. We will continue do our best to deal with those urgent cases when they arise.

Following is a list of the jobs we currently believe we need to complete in the near future. As you can see, our plates are pretty full. These are not in order of priority, and it would be nice to get your feedback about what is most important to you, particularly if you're managing teams of people and/or projects. If you've already done so, never mind. We would also like to find out what's missing and can supply you with more details of what we believe each task entails if you're unclear about any of them...

Net Ops Job Queue

- 1) Completion of PPP dial-in and client configurations: Don/Frank
- 2) New IS server (moving all IS functions off of wais.com, onto a new server): Frank/Kevan
- 3) Firewall and Security: Frank/Don
- 4) TeleMagic and the Sales Net: Frank/Don
- 5) Desktop Plan: Don
- 6) Server Optimization, Hard Disk reallocation: Frank
- 7) ISDN dial-in: Frank/Don
- 9) Ops Plan: Don
- 10) Back-up Plan, Implementation: Kevan
- 11) Network expansion (more ethernet nodes, cables, hubs): Kevan
- 12) List servers: Kevan
- 13) Demo Server: Frank
- 14) Move Feed Handling: Frank
- 15) 1-800 dial-in number: Don
- 16) New FTP daemon for Public server(s): Frank
- 16) Xterm order and install: Kevin
- 18) MCI "hot" backup T1: Frank
- 19) NIS for Mica: Kevan
- 20) Automounter system for NIS servers: Kevan
- 21) Websoft email alias: Frank
- 22) News: Kevan
- 23) SWAIS: Kevan
- 24) Mac File Server: Don
- 25) Purify Install: Kevan
- 26) RnD Solaris Server (Sashimi?): Frank
- 27) I/Pro's I/Count: Frank/Don
- 28) RnD Port Machines purchase, cfg: Frank/Don
- 29) Assorted Upgrades: Don
- 30) Network management Tool Eval: All
- 31) Spare Part Stock: All
- 32) Fault Tolerance Improvements: Don/Frank
- 33) Printing from PC's: Kevan
- 34) Increase Sushi Memory: Kevan
- 35) CMP Server: Frank/Kevan
- 36) HP Jet Direct Box for LocalTalk printers onto Ethernet: Kevan/Don
- 37) Sparc Classic Upgrade: Kevan
- 38) User directory redistribution: Kevan/Frank

Thank you for your patience,
--NetOps

6.5) Emergency Notification Procedure

To: wais-staff
From: don@wais.com (Don Whitt)
Subject: WAIS Network Operations Emergency Notification
Procedure: New and Improved
Cc: cmp,scholastic,intel,dj
Bcc:
X-Attachments:

Here are the new instructions for notifying WAIS network operations that there's a network problem:

>>>>Dial 415-253-1851, 7 days a week, 24 hours a day.<<<<<

This is a telephone pager, so you'll need to punch in your phone number after you hear the initial beep, then hit the # key when you're finished. We'll call you back within 5 minutes, get the information from you and then solve the problem as quickly as possible. That's it.

Thank you,
--dw

6.6) Production Service/Server spec

Date: Thu, 20 Jul 95 15:26:12 PDT
From: frank@wais.com
Subject: Prod serv
To: don
Mime-Version: 1.0

Notes for building a Wais service. Focus on involvement for Operations.

1. Research and logistics.

Resource allocation. Advance requirements are for a particular service.

Items:

Expected magnitude of usage.

Data storage requirements.

Nature of service (dynamically growing or static/slow growth). UNIX account and FTP requirements.

Support requirements (depends on customer service contract). Special data feed requirements (X.25, FM subcarrier, satellite). Customer interface and single point customer contact. Expected service roll-out and other schedules. Special custom tool development requiring customized server setup. Service monitoring and notification tools. Training for service support engineer and Ops personnel.

2. Operations concerns and methods.

Scaling strategy for growing services. Definition of service types:

Limo service

The current model leans towards the idea of using the AOL "pods" strategy. In short: the production server becomes a replicated clone of a "master" server. The master server does staging, FTP interface, data updates (trigger), synchronous dissemination of data to clone, wais indexing, collection of logs and reports. The master is of robust nature and fault tolerant, the low end clone servers are exchangeable at any time. Clones can be added for performance enhancements at any time.

Shuttle service

Initially a service coexists with other shared services on the same physical machine. When performance issues are of concern, then scaling plan falls in place. Next step up would be a single dedicated server. The final upgrade should then be the Limo service. Wais should reserve the right to handle a service based on customer service contract and resource allocation.

24 hour service

Ops provides 24 hour service for machines and connectivity. It should be established that Ops cannot perform initial customer contact for emergencies. Ops will perform back-end support to customer service

engineer for any web service related problem and first grade front line support for all machine and connectivity issues. Any implementation requests of non-emergency type should be scheduled during regular business hours unless unreasonably high downtime of service affects customer.

Customer service

The customer service would have to have a set of basic skills of troubleshooting a service. Classic debugging tools such as "ping", "traceroute" and "nslookup" are a must. In addition, AOL resources should provide an extra debugging help. The AOL webbrowser on a desktop machine (neutral place on Internet) can be used to quickly determine a Wais service being "up" or "down". Basic UNIX skills required.

Definition of machine and connectivity issues:

Segmentation faults and core dumps on master and clone machines. Loss of connectivity in and outside Wais network Defective data disks and corrupted data

Accidental loss of data, requiring data restore from backup media
Upgrades and performance enhancements for master and clone servers DNS lookup problems, in-house NIS, POP/email problems. Dial-up and modem related issues.

UNIX account management

List of issues and situations which should be handled by customer service engineer:

Httpd server not responding, but machines are otherwise running O.K.
Trigger or other data updates are not working Loss of FTP access, but Httpd is running Sluggish response from customer perspective, but in-house performance acceptable.

Investigation of basic Internet connectivity service (ping, traceroute, nslookup)

DNS lookup problems from customer perspective, but in-house lookup O.K.

3. Setup of services.

Early development stages should take place on designated in-house servers (sushi, sashimi, backstage). Prodserv engineer should follow service flow chart outline in 411 database.

Establishment of service related items with ops:

Port numbers for service.

User, admin and email accounts. Each service should have an external admin account and a in-house admin account which should be used for server and service administration. A http server process should always run with a unique user id (identification on a shared server). Waisserver and waisindex processes should also run as "setuid" to identify the ownership of service related processes.

Other pertinent times:

Choice of server platform, ideally Solaris 2.4 +. Choice of http server (currently Apache server or NCSA 1.4.1) Setup of directories (/services/production, /services/staging, etc.) Server monitoring scripts and cron jobs. Each service should have a set of common monitoring tools running on either the server or an independent machine in-house

(webworld, ns)

Logfile management. All logfiles should be kept as long as necessary, but should not

exceed a period of two weeks. Automatic scripts should compress logfiles and ship them

off to long-term storage (currently spanky:/data_arc[1-3]). A CD-ROM burner device

is identified as the long-long-term solution. Documentation of all relevant times, customizations and setup issues. Update 411 pages.

Training

4. Prototyping and hosting of services.

Once a production service has reached the "beta" stage, it should be hosted on backstage (Solaris 2.4) or final target server on the public net. Formal QA phase including stress and performance testing (Pounder, etc.). Final QA testing of services and server setup on target server machine. Next: "Ship It" (uncork champagne)

6.7) Standard CPU Cfgs for WAIS Employees

A List of Standard Computer Configurations

General and Administration

Macintosh PowerPC 6100

240-500Mb Hard Drive

** 16-24 Mb DRAM (orig'ly 12-16. admin folks are as likely as, e.g., accounting to have 3 or 4 apps open)

Apple Mouse

Apple Designer Keyboard

15"-16" Color Monitor

FriendlyNet Adapter for 10BaseT

Accounting

Macintosh PowerPC 6100

240-500Mb Hard Drive

16-24 Mb DRAM

Apple Mouse

Apple Designer Keyboard

** 15" - 21" Color or grayscale monitor (lowered min to 15") FriendlyNet Adapter for 10BaseT

Human Interface Designer

Macintosh PowerPC 6100

1-2 Gb Hard Drive

**40-128 Mb DRAM (raised from 28-40Mb. These folks use apps, like Photoshop that use tons o' ram)

Apple Mouse

Apple Designer Keyboard

16" - 21" Color Monitor

FriendlyNet Adapter for 10BaseT

Information Engineer and Development Engineer

Macintosh PowerPC 8100

1-2 Gb Hard Drive

24-40 Mb DRAM

Apple Mouse

Apple Designer Keyboard

16" - 21" Color Monitor

FriendlyNet Adapter for 10BaseT

or

Tektronix X-Terminal*

w/ 19" Color Monitor

IBM 101 Keyboard

Mouse

additional 4Mb Simms

or

Intel-based PC
Microsoft WIN95 or NT OS
1-2 Gb Hard Drive
24-40 Mb DRAM
Keyboard/Mouse
16" - 21" Color Monitor
Ethernet Adapter 10BaseT Card

Managers, Telesales, Sales and Customer Account Management

Powerbook 520

At least 20Mb of RAM **(40Mb for telesales reps) **Internal modem (Need to see what internal modem are best. The Global Village modems are flaky. Perhaps Apple Express) Sony 16" external monitor
Mac VGA to standard VGA adapter
Mac Powerbook Video dongle
FriendlyNet Adapter for 10BaseT
Apple Designer keyboard/Mouse
Spare Battery/Charger

or

Apple Duo 230 Notebook

At least 20Mb of RAM
Internal modem (GV Powerport 14.4 or 28.8 if it exists) Apple or Sony 15"-16" external monitor
Mac VGA to standard VGA adapter
Apple Designer keyboard/Mouse
Duo Dock station w/ 1-2Mb VRAM
Ethernet Adapter 10BaseT Card
Apple Designer keyboard/Mouse
Spare Battery/Charger

Executives

Powerbook 540c

At least 20Mb of RAM
Internal modem (GV Powerport 14.4 or 28.8 if it exists) Sony 16" external monitor
Mac VGA to standard VGA adapter (the little, chrome box-like thing) Mac Powerbook Video dongle
FriendlyNet Adapter for 10BaseT
Apple Designer keyboard/Mouse
Spare Battery/Charger

or

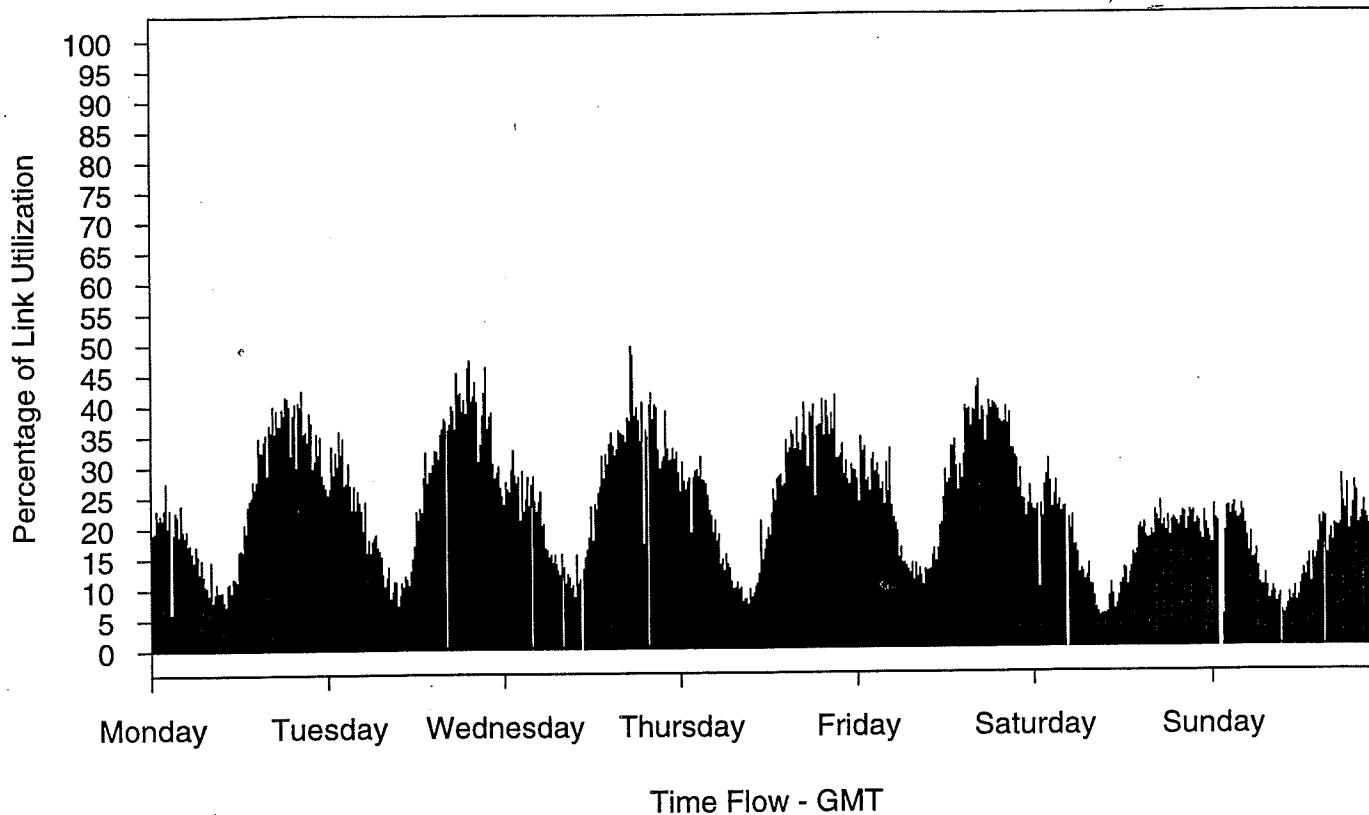
Apple Duo 280c Notebook

At least 20Mb of RAM
Internal modem (GV Powerport 14.4 or 28.8 if it exists) Apple or Sony 15"-17" external monitor

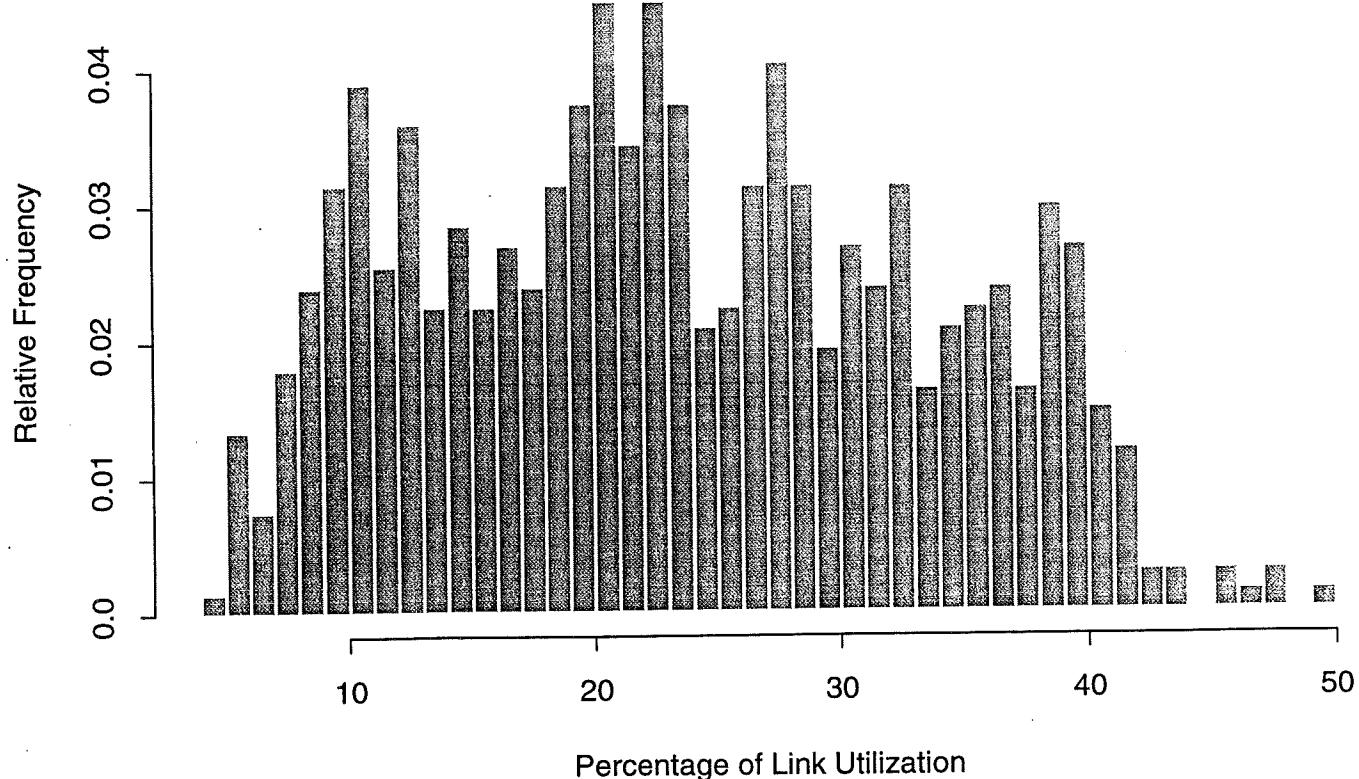
Mac VGA to standard VGA adapter (the little, chrome box-like thing) Apple
Designer keyboard/Mouse
Duo Dock station w/ 1-2Mb VRAM
Ethernet Adapter 10BaseT Card
Apple Designer keyboard/Mouse
Spare Battery/Charger

* Requires a new Sparc server for every 5-10 xterms added to the network.

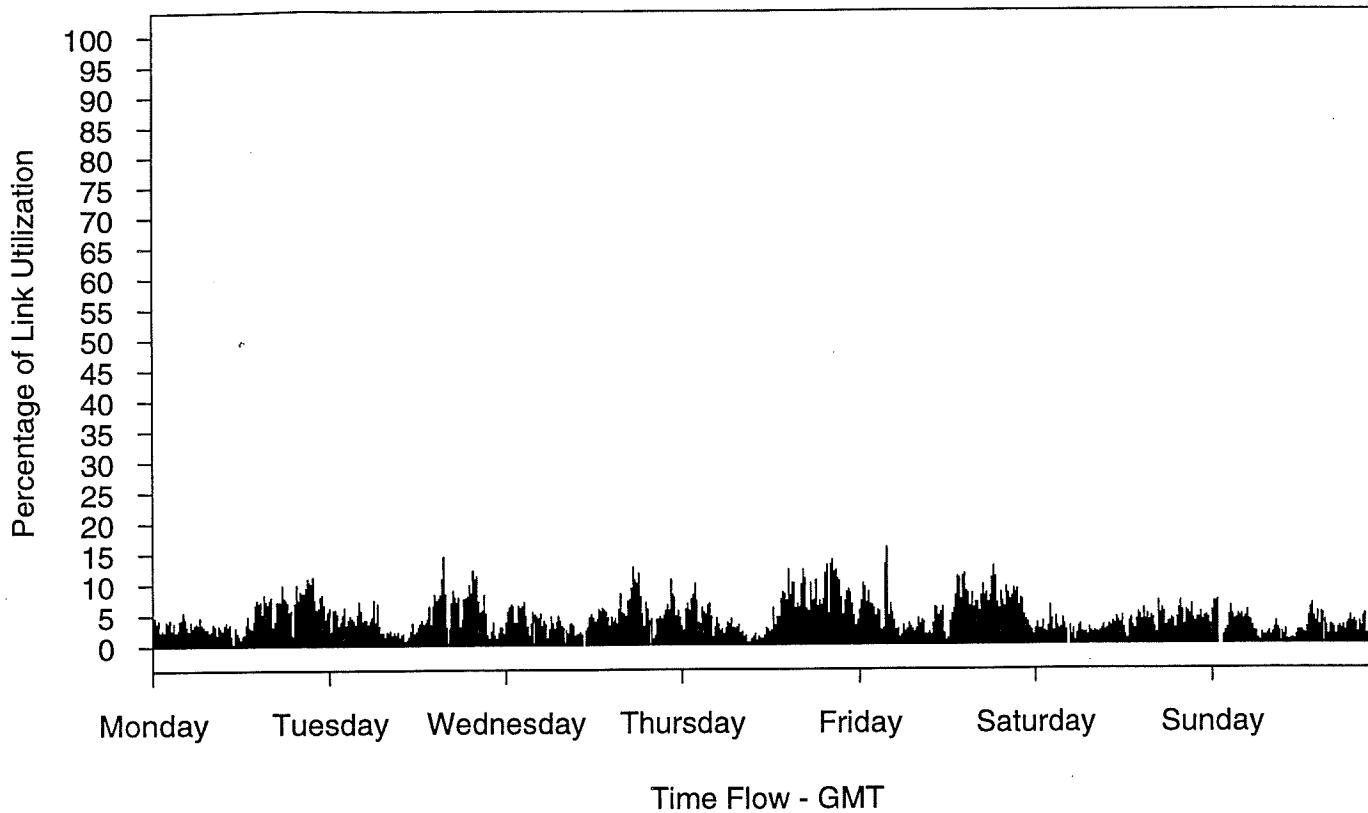
enss420_Ser0 -> cnss12, Link Utilization, Jul 17 - Jul 24



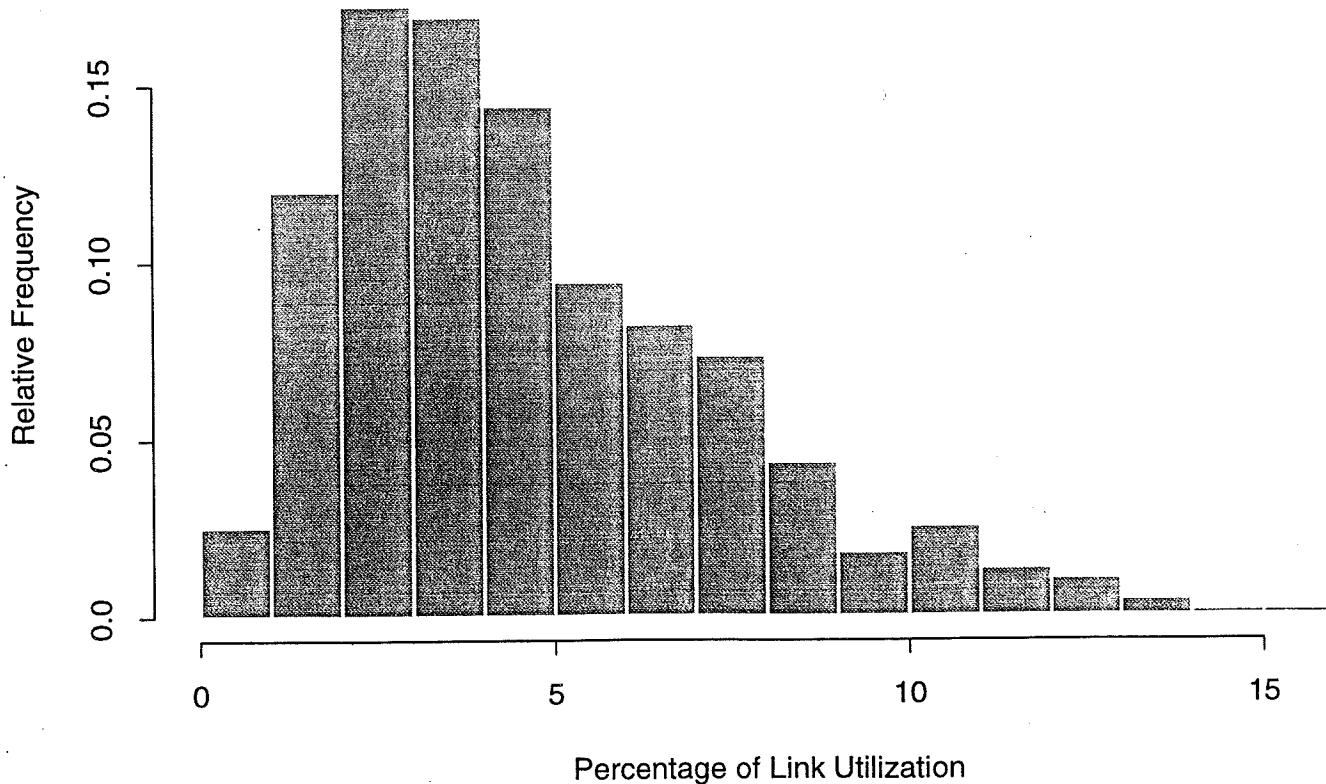
enss420_Ser0 -> cnss12, Usage Distribution, Jul 17 - Jul 24



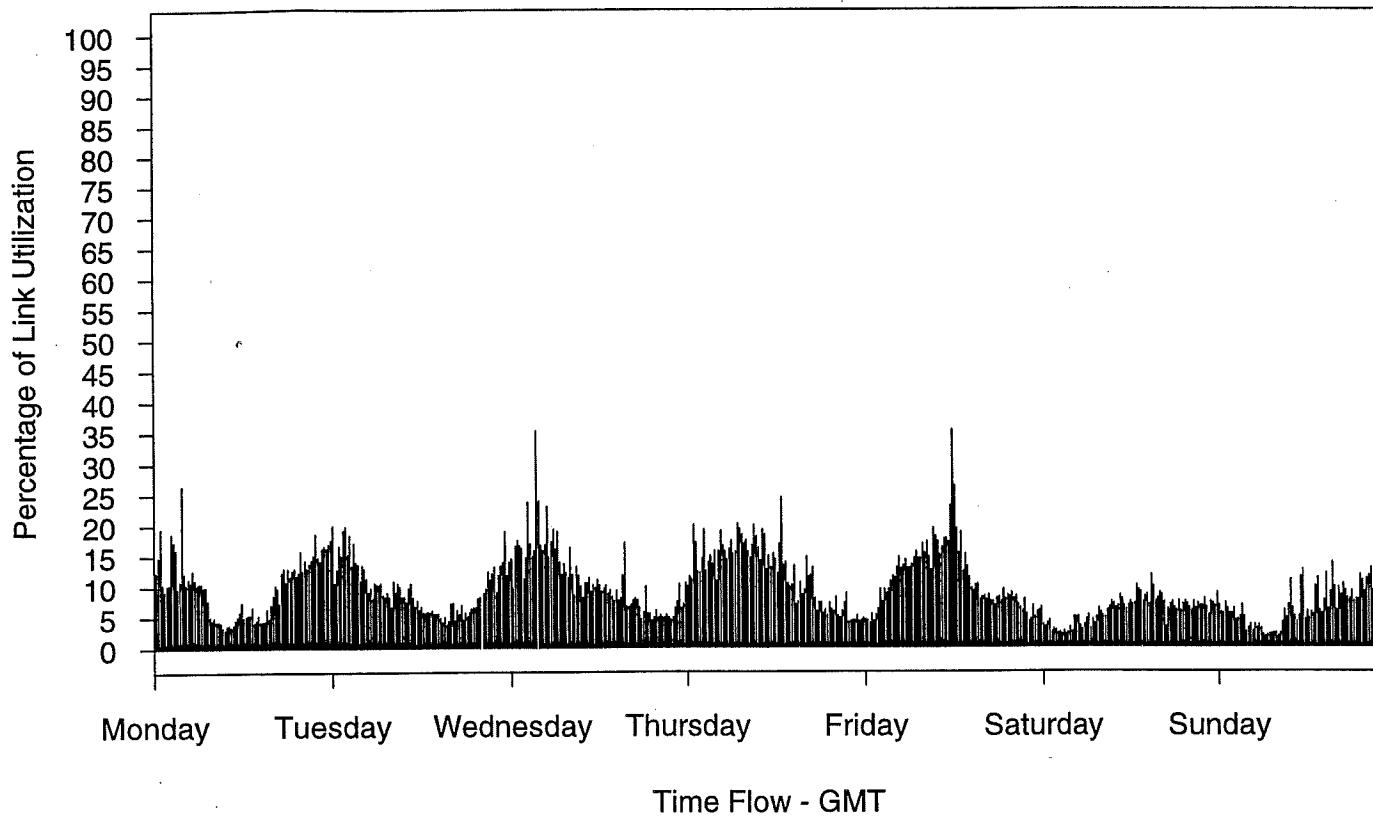
cnss12 -> enss420_Ser0, Link Utilization, Jul 17 - Jul 24



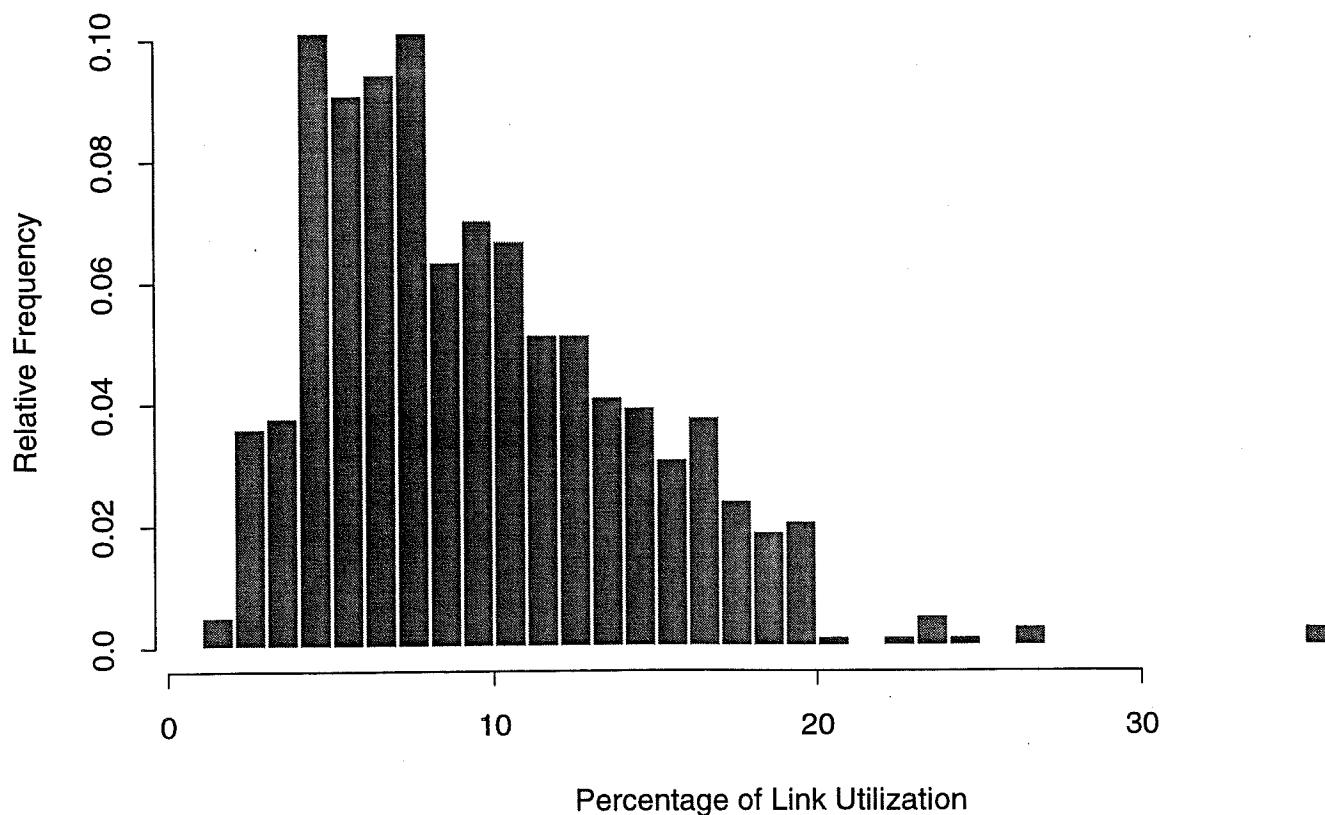
cnss12 -> enss420_Ser0, Usage Distribution, Jul 17 - Jul 24



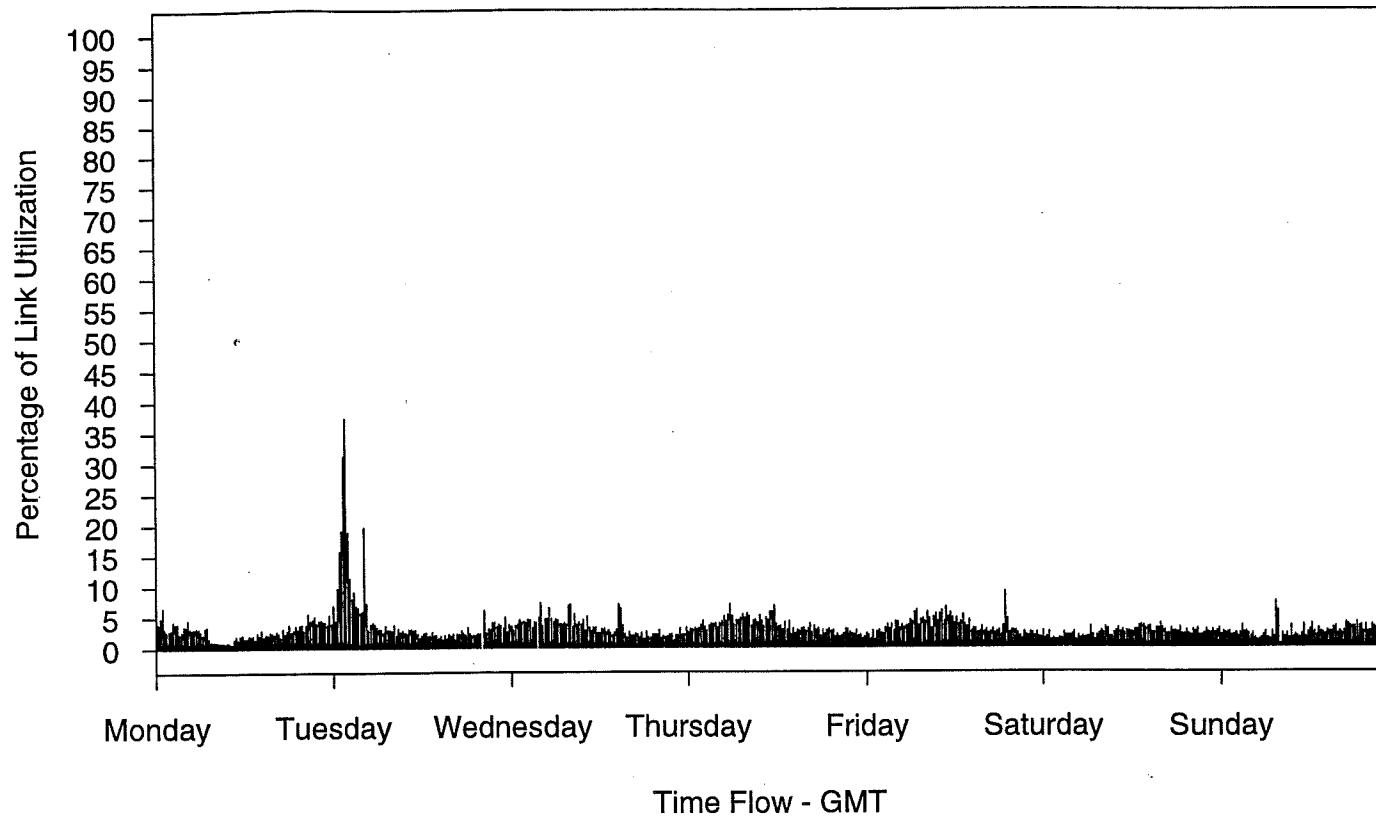
enss420_Ser0 -> cnss12, Link Utilization, May 1 - May 8



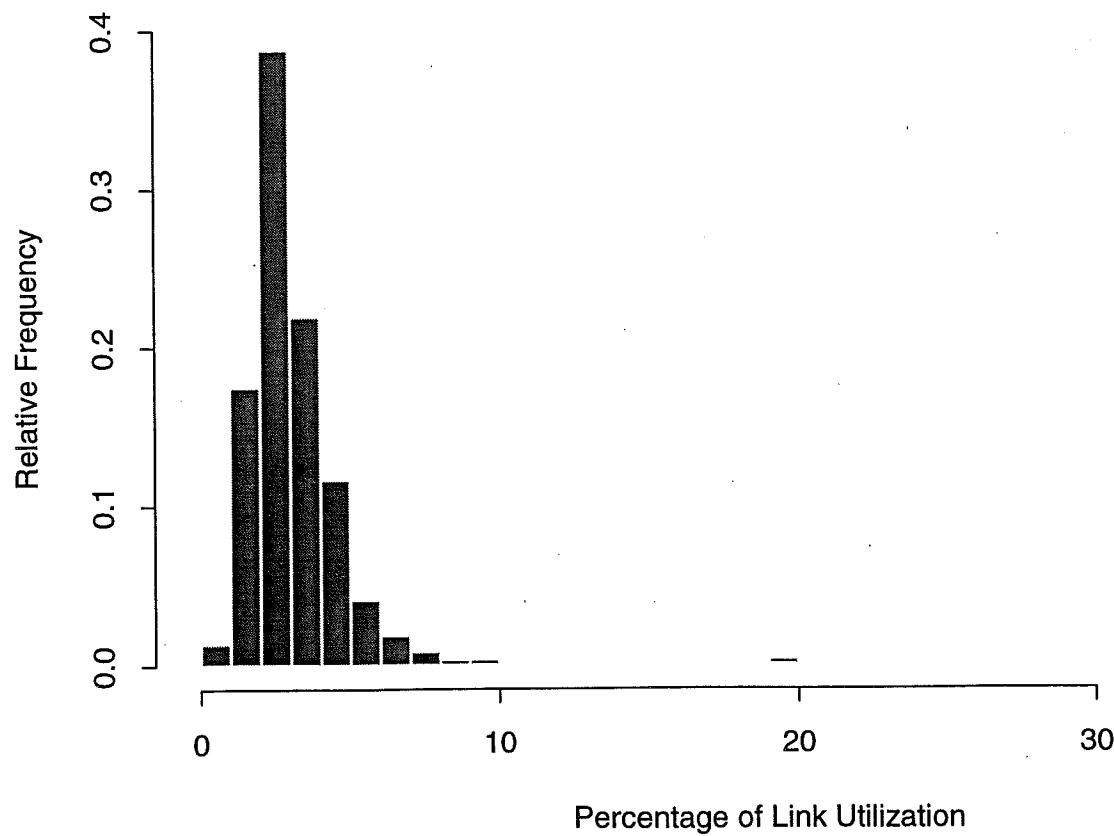
enss420_Ser0 -> cnss12, Usage Distribution, May 1 - May 8



cnss12 -> enss420_Ser0, Link Utilization, May 1 - May 8



cnss12 -> enss420_Ser0, Usage Distribution, May 1 - May 8



JUL 21 '95 16:52 FR ANS-RESTON

703 758 7717 TO 914153565444

P.02/03

JUL 21 '95 17:23 FR ANS

914 789 5310 TO ANS-RESTON

P.01/02



Corporate Headquarters

100 Clearbrook Road
Elmsford, New York 10523
Telephone: 914-789-5300
Fax: 914-789-5310
e-mail: info@ans.net

*****INVOICE*****

REMIT TO:

ANS CO+RE SYSTEMS, INC.
100 Clearbrook Road
Elmsford, N.Y. 10523
(914) 789-5300

BILLING INQUIRIES: (914) 789-5353

INVOICE NUMBER: (XXX)934-IN

INVOICE DATE: 6/26/95

AMERICA ONLINE
8619 WESTWOOD CENTER DRIVE
VIENNA, VA 22182

CUSTOMER NO.: WEBSOFT

CONTACT: SARA PRICE

CUSTOMER REP: NONE

PAYABLE UPON RECEIPT

DESCRIPTION	AMOUNT
ANNUAL ATTACHMENT FEE - T1 (FOR THE SERVICE PERIOD 2/14/95 - 2/13/96)	\$ 27,000.00
*CIRCUIT CHARGES ANNUAL RECURRING FEE (FOR THE SERVICE PERIOD 2/14/95 - 2/13/96)	<u>\$ 10,229.00</u>

INVOICE TOTAL:

\$ 37,229.00

***ALL CIRCUIT CHARGES INCLUDE FEES FOR LOCAL LOOP, AC, COC, AND IOC.**

NOTE: A 1.5% PER MONTH FINANCE CHARGE WILL APPLY TO ALL INVOICES 30 DAYS OR MORE OVERDUE.